

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

To:

see form PCT/ISA/220

01. JUNI 2004

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

(28.5.2004)

Applicant's or agent's file reference  
see form PCT/ISA/220

Mitscherlich & Partner  
Patent- & Rechtsanwälte

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/EP2004/000104

International filing date (day/month/year)  
09.01.2004

Priority date (day/month/year)  
24.01.2003

International Patent Classification (IPC) or both national classification and IPC  
G10L21/02, G10L11/02, G10L15/24

Applicant  
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1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/EP2004/000104

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/EP2004/000104

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**Box No. II Priority**

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1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

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**Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	3,5-15
	No: Claims	1,2,4
Inventive step (IS)	Yes: Claims	10-13
	No: Claims	3,5-9,14,15
Industrial applicability (IA)	Yes: Claims	1-15
	No: Claims	

2. Citations and explanations

see separate sheet

**Re Item V.**

1 The following documents are referred to in this communication:

D1: WO 02/29784 A (CLARITY LLC ; ERTEN GAMZE (US)) 11 April 2002  
(2002-04-11)

D2: WO 02/084644 A (DEUTSCHE TELECOM AG) 24 October 2002 (2002-10-24)

D3: US 2003/007633 A1 (WILDIE MARK GREIG ET AL) 9 January 2003 (2003-01-09)

2 INDEPENDENT CLAIM 1

2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT. Document D1 discloses (abstract, fig. 11,13-15) an audio-visual speech processing system in which the audio and video signals are analysed in parallel, and information from the video signal is used for speech detection and the selection of filters for noise removal in the audio signal. The subject-matter of claim 1 is therefore known from D1.

2.2 Dependent claims 2-4, do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT):

the feature of claim 2 is standard in transmission systems;

the feature of claim 4 is known from D1;

the feature of claim 3 is standard in transmission system, see D3.

3 INDEPENDENT CLAIM 5

3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claim 5 does not involve an inventive step in the sense of Article 33(3)PCT.

Document D1 is considered to represent the most relevant state of the art to the subject matter of claim 5, its disclosure is above mentioned in § 2.1.

The subject-matter of independent claim 5 differs from the disclosure of D1 in that the noise reduction algorithm is a spectral subtraction method using the noise signal estimated during speech pauses while D1 uses filters dependent on the recognized visemes. This difference is only a simplification of the noise reduction system, coming back to a standard known method.

D2 discloses this known noise estimation and spectral subtraction solution. The features disclosed in D1 and D2 would therefore be combined by the skilled person, without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claim 5 thus cannot be considered inventive (Article 33(3) PCT).

- 3.2 Dependent claims 6-9 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step (Article 33(2) and (3) PCT).

the features of claims 6,7 are standard in transmission systems, see D3;  
the features of claim 8 are known from D1;  
the feature of claim 9 is standard in speech processing systems (machine learning)

#### 4 INDEPENDENT CLAIMS 14, 15

The present application does not meet the criteria of Article 33(1) PCT, because the subject matters of claims 14, 15 do not involve an inventive step in the sense of Article 33(3)PCT. These systems are simple telephony based applications of the method known from D1.